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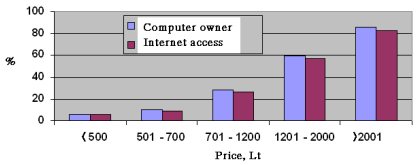

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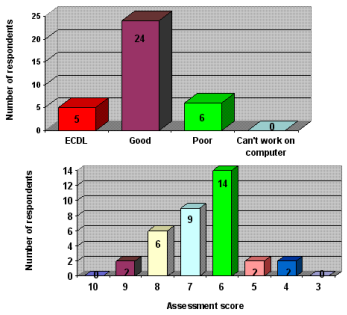

INNOVATIVE INFOTECHNOLOGIES
FOR SCIENCE, BUSINESS AND EDUCATION

ONLINE SHOP REALIZATION. 1. RECENT PROBLEMS OF CUSTOMER SERVICE

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ABSTRACT The main idea of this article is devoted to the online customer service issues. Several influence factors such as companies focus on customer service, creation of customer service standards, human resources, customer relationship management will be identified and analyzed. The efficient customers service online is determined by such factors as a speed of response to electronic requests, the qualification of personnel, used customer service tools, call centers, standards of customer service and recourses in compliance with the standards of the real situation.

Keywords: E-commerce; Customer-friendly manner; Adjustment factors; Customer's verbal recommendations; Business-to-consumer; Price reduction; Communication tools; Business online.

Short title: Online shop service - 1

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Introduction

Modern competitive environment, all trade organizations are forced to fight for every customer in order to keep the market at the significant level. Advanced tools prepared in this competition have a special focus on customer service. Service quality is becoming a strategic factor for organizations that provide strong competitive advantage over the other market participants.

In recent decade, a big number of companies started their business online, but only a small part has managed to gain a competitive advantage. On the contrary, a large part simply went bankrupt. Therefore unrealistic expectations and an incorrect use of business model might be pointed out as the main reason for failure. However, it is necessary to emphasize the successful development of the Internet activities. It is very important to understand consumer expectations and their ability to adjust. Particular attention should be paid to customer satisfaction area in order to avoid dissatisfied customer cases.

With the rapid development of technologies efficient customer service has acquired a broader meaning not only in stores but also in cyberspace. Customer services, depending on business areas, include more factors and criteria from which the customer chooses one or another product or service. Three, four decades ago the idea of global information network (the current Internet network), could have looked attractive for many users. However, today the network is used by approximately 800 million various users worldwide. The Internet as a global network allows smaller networks to be joined by millions of users worldwide. For a long time, the Internet was mostly academic research and work tool. Recently, many businesses and individual consumers all around the world have realized the potential of the Internet and its possibilities. Today, people all over the world can use the Internet to obtain information, communicate with each other, have access to a wide range of services and information resources, to buy and sell goods and services in cyberspace. It is more than obvious that the Internet covers many areas, rapidly changing the traditional business organization with new entrepreneurial principles. However traditional customer problems occur in this field also.

1. Customer problems (how to sell, how to buy)

The online stores usually sell things or services. Users are satisfied as long as the online store is able to meet or exceed their expectations. However, in the case when these needs are not fully satisfied, it is necessary to carefully examine the causes and take appropriate adjustment factors. The customer must be provided with the broadest possible range of communication tools, namely the possibility to contact the company in a customer-friendly manner. In traditional business transaction, the buyer contacts the seller. Therefore, in the case of failure, the seller may urgently take the necessary measures to tackle the problem. However, online shoppers communicate with the information system, and therefore the possibility to contact the staff quickly and easily is limited.

In case of complaints it is necessary to respond quickly and take actions to solve the problem of dissatisfied customers. Thus, to retain customer loyalty, it is essential to find proper and quick solution to the problem. Company's future success may greatly depend on satisfied customer's verbal recommendations. Fig. 1 represents the scheme of online service and customer service relationship.

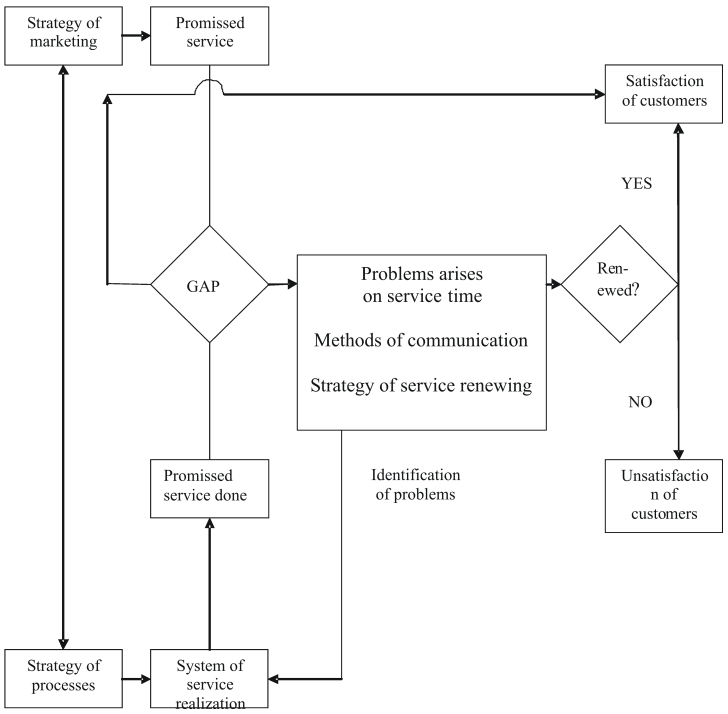

Fig. 1. Relationship of online service and customer service

Sohel Ahmad claims that the 67.4% of the respondents used e-mail for communication, while 31.8% had chosen phone as the preferred method. However, if customers faced a problems, 48.6% of them used e-mail, and 51.4% of them preferred phone. This indicates that when the problem arises clients prefer "live" telephone communication. Some customers were dissatisfied when they could not contact the company by phone [1].

It should be noted that users should be able to contact the online shops by telephone. Reducing the cost by withdrawing the telephone customer service may seem profitable, but data of Sohel Ahmad study shows that the possibility to communicate only by email may lead to the loss of customers. This can have a great negative impact on the outcome of the price reduction. Online shopping may cost more by giving customers access to communicate. On the other hand, it should be noted that some customers can not describe the problem which had occured by e-mail communication. [1].

It is expected that volume of online sales will continue to grow significantly as more and more people in the world use the Internet as a shopping tool. However, despite the significant rise in sales via the Internet, there is evidence that sellers are willing to use all the possibilities. The dilemma is how to turn internet searchers into actual buyers and make them loyal customers. It was calculated that some online buyers represent only $2.8 \div 3.2\%$ of the site's visitors. One of the main reasons is the lack of customer service quality. Another reason that some online shoppers do not receive answers to their questions. Whereas online sellers criticise the high costs to attract new customers leading to the failure to give them proper care.

Although customer service is the subject of many authors and a great number of researches, most of them confide in the traditional trade or services. The majority agrees that the appropriate customer service is the key to success, but the sales of goods or services via the Internet is still an obscure study of what factors are important to the customers.

The previous research supports the opinion of the critically important role in the process of vendor selling goods in traditional stores. Poor customer service has been identified as one of the main reasons for which many shopping centers are losing their customers and sales. According to Chain Store Age report, almost 75% of successful buyers accentuate the seller, while more than 80% of dissatisfied buyers accuse the seller.

However, the vendor who serves customers in traditional retail store way, while online shopping, does not exist. Obviously it leads to the lack of service, because online buyers may expect assistance similar to the traditional shopping. Internet shopping in some cases can be complicated and difficult without a sales assistant, but it is unlikely that the online shops would limit their activities. These issues will be discussed furthermore.

2. Hardware/software problems

Services offered to Internet users are extremely important for *Business-To-Consumer* (B2C) E-commerce field. Essential services to help consumers to buy a product online could be described as follows: i) search of products; ii) quick response to user queries, iii) assistance in completing the buying process; and iv) the confidence and assurance of data security.

Electronic search is an extremely important service on the Internet. Users are comfortable that the service is available 24 hours a day, seven days a week. This information is available in a form of online catalogues, which includes: i) product description and price; ii) payment methods; iii) consumer opinion about the product; iv) possibilities of product search by keyword; v) advertising in various search sites. Customers will also assess the information on complementary products in the search process. Also positively evaluated links to additional information that may be necessary for users.

The research has shown that customers particularly welcome the electronic responses to the requests, order confirmation, delivery and payment information sent by e-mail even if it is an automatic response. It should be emphasized that an electronic response helps to strengthen the relationship between the seller and the consumer compensating the lack of attention in a typical store. The users also appreciate the emails with confirmations or apologies for delays as well as information about new products and sales.

Online businesses particularly welcome the orders received via the Internet, comparing them to the abundance of faximiles, especially “decoding" hand-written documents. Online orders have their standard form. Therefore error probability is reduced resulting in better consumer satisfaction. Customers should be given access to review the history of orders and check their order status. It is also important for a customer to know the final product price before shipping. Although the majority of E-commerce organizations allow their customers to shop freely providing the opportunity to choose the most convenient method of payment (for example, payment by check, money order or cash on delivery), an electronic payment method should be encouraged. Electronic transfer saves time and ensures the accuracy of information.

E-business companies which provide services to the clients have to evaluate the security of payment transmissions and information security significance to business processes. Our studies have shown that many potential buyers terminate their transactions due to security issues. Safety of personal data, knowing that it will not be disclosed to the third parties also strengthens customers trust [2].

To ensure trust and security, vendors should constantly show attention to their customers, who have to be informed about the latest security. Knowing this, the buyers will definitely rely on secure websites. While promoting sales online, sellers have to reply to customer requests, the site should publish answers to frequently asked questions and also contain photos of products and to get consumer feedback.

Electronic commerce research has confirmed that the majority of sellers use the Web (World Wide Web) to inform customers about new products and services. In order to serve customers better before and after the sale process, sellers will also use technologies such as electronic mail, fax and online service. E-business organizations are also aware of the importance of new and "fresh" information site. It helps to attract customers and get them to visit the site more often. Organizations also use the multimedia to customers who are interested in presenting new products. [3]

Table 1. Factors influencing consumer

Factors	Comments
Benefits	Easy access to the site, a user-friendly interface.
Contents of Information	Information is useful, up-to-date, laconic, not repeating, relevant, not much commercials.
Structure	Clearly defined structure and web site data. The text on the site is divided into appropriate, well-marked subdivisions. Large text- blocks are reduced.
Regularity of links	Site includes links that are appropriate and correct. No links to sites which are being developed or designed.
Search	Implemented website page and information search system. Search results are precise, and provide a useful reference list in the shortest term.
Design	Site design must be user-attractive. Each page should have graphical elements related to page information. Convenient printing view settings (background should not be dark).

In the meantime, customers claim that completing various forms online and sending them takes more time. It also showed that the site projects, where navigation is difficult and ease [3].

After several marketing researches some interesting facts revealed. As example, electronic service quality may be significantly increased through implementation of new service tools and technologies. Using such tools companies according to the most popular searching results on the internet could gather information about individual needs of customers and offer several implementations for the market. Also, implementing technologies intended to gather information about separate clients allow easily understand individual current needs and their dynamics to offer best business solution. Systemizing current needs dynamics helps in developing only relevant services for particular group of clients. Moreover, personalized offers and advertisements for various client groups help to receive friendliness and loyalty of costumer.

Maximum efficiency could be achieved through supplying whole relative service set, starting with product description, order, payment and finishing after-sales services. Only implementation of all these services allows introducing company as online consumer representative to potential clients. In that case consumers receive real service from initial contact to purchase and delivery. Ideally, smooth service in refund and complaints cases must be ensured to increase convenience and confidence of each client.

E-services concept as one of the key success factors in electronic business was studied briefly from theoretical as well as practical point of view. Electronic service could be defined as service in cyberspace. Therefore, electronic service role definition is highly important. Up to 8 million GBP of benefit could be lost as consequence of pure service. Despite the fact that number of consumers exploring electronic services benefits increases, high quality service must be ensured. Negative consumers experience could complicate internet market development.

3. Complex estimation

According to theoretical recommendations, nearly 70÷75 % of network (web) budget should be devoted to development of electronic services. Main reason is electronic conception understanding much wider than only orders, electronic orders organization and e-mail connections. Contribution of each available electronic service and electronic providers is forming the future of electronic commerce. [4]

Electronic service researches have been started recently. Van Riel describes five electronic service components in his works (see Ref. [5]) as follows: i) main service; ii) facilitation of services; iii) the promotion of the service; iv) complementary services; v) user interface, allowing customers to access services. Nowadays, theory based on two main approaches. First focuses on technological user interface, its improvement and expansion. Meanwhile, the second uses existing high-quality services theory as a basis for further scientific research.

Increasing quality of electronic services allows to achieve better efficiency and quality of services provided to customers. Main aim of designers is to understand the need of consumer, and correspondingly, aim of academic researchers to evaluate internet facilities and describe suitable structure of electronic system. Unfortunately, only few researches have been performed to explore factors forming quality. Most complicated task of electronic system designer is a creation of high-profile web site, which could be competitive comparing to huge number of competitors. One of the ways would be creation of attractively designed web site, using bright colors, Java scripts, video and audio tools, etc or achievement of high functionality of the system [4].

Six criteria of consumer impact according to Abel are well-known: i) benefits; ii) content; iii) structure; iv) linking regularity; v) search; vi) appearance. Table 1 represents the factors influencing consumer in detailed manner.

Dholakia and Rego intended for creation of functional and attractive site suggest using following features: regular data updating; sufficient incoming and outgoing web site links; distinctive details (.gif animation and other); partner banners.

Z. Yang [6] suggested variation of factors which are impacting service quality, showed in Table 2.

Summing up, different approaches for achieving high quality and efficiency could be applied, both design features and functionality factors. Differences between approaches appear because of various user needs, depending on user. Content of web site, target audience are also important. Optimal result could be achieved combining functionality, design, content and innovative factors to satisfy each customer.

Obviously, implementation of all earlier mentioned actions influence higher cost of web site design, operation. However, it allows becoming competitive on the internet market and makes perfect investment for the market leadership over time [6].

Jessica Santos submitted an electronic service quality model, which is described in Table 3.

Table 2. Internet service quality factors according Yang, see Ref. [6]

Factors	Comments
Reliability	Accuracy of order, prompt delivery and correct account generation.
Responsiveness	Quick responses to customer queries, call or e-mail messages (in time), quick and convenient information search.
Access	Includes contact details of the company's home address, e-mail addresses, telephone and fax numbers, company representatives, access to online chat and other communication tools.
Ease of use	Easily memorable site address (URL), a well-planned and structured web design, convenient navigation, laconic and clear information.
Attentiveness	Consists of an individual seller's attention, the personal gratitude and the possibility to carry out searches or leave comments in a user-friendly way.
Credibility	Associated with the online activities of the organization's history, received awards, promotions and banners of business partners.
Security	Ensures personal data privacy and security, minimizes risks while purchasing on the Internet.

Earlier described model is suitable for companies, have developed their business as based on the internet or plan it in near future. Two main web site phases could be determined: designing and operating. Several factors which determine quality of service should be mentioned. It is essential to create simple, convenient and at the same time attractively designed system.

Secondary factors such as regular links, structure and content according to Santos are less important on the first phase. However, on operating stage other features are important, so designer should ensure constant information updating, data reliability, implementation of searching system and communication with customers. Several language interface, as well as, data and payment safety would be benefits of the web site.

Conclusions

The complex needs of society become the new challenges for e-business opportunities, so it is very important well-timed and effective implementation of innovations. It is estimated that the number of online buyers is only 2.8 ÷3.2% for all the visitors. One of the main reasons of this is lack of customer service quality. The study reported two problems.

1. Insufficiently fast answer to the electronic queries. This leads to such factors as unreality of labor standards, avoidance of them or its absence, insufficient management attention to this problem.

2. Insufficiently comprehensive and clear answer. This problem should be solved by improving personnel skills, properly allocated work-load and all the process should be under continuous control. The process' control in case of the Internet service is much easier. It may be done by managers, because there is no direct contact between a customer and an employee.

Table 3. E-mail. A model of service quality

	Creation	Explotation	
Inner seach, inner navigation	Simplicity	Reliability	Frequent updates of contents
Colors, graphics, pictures, animations	Design	Effectiveness	Data transfer, search, navigation
True references, time-after-time renewing	Structure and distribution of references	Support	Easy instructions, FAQ, help, online help
Specific information; interactivity according to the country tradition	Content	Communication and security	Multilanguage portal

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INNOVATIVE INFOTECHNOLOGIES
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ONLINE SHOP REALIZATION. 2. IT PROBLEMS IN LITHUANIA

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ABSTRACT The main idea of this article is to explore the quality of key factors and their impact on customer service quality. Analysis of e-business situation in Lithuania is reviewed. Reasons that oppose this type of commercial development were identified. A questionnaire filled by customers allows us to analyze the quality of online services in Lithuania. The key customer expectations and problems were identified. During the investigations of quality insurances project for improvement of proposals and communication was prepared.

The model is applied to companies operating on the internet. In order to successfully apply this model, organizations need to focus on customers, modern approach to customer services, and provision of support over internet and usage of international technologies for service processing.

Keywords: E-commerce; Customer-friendly manner; Adjustment factors; Customer's verbal recommendations; Business-to-consume; Price reduction; Communication tools; Business online.

Short title: Online shop service - 2

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Introduction

New information technologies (IT) rapidly and quite aggressively approach everyone's work environment as well as everyday life. The ongoing advance of science and technologies affect the crucial changes in work processes, such as increase in a role of planning, management, system analysis and other intelligent operations. These technologies are gaining crucial significance in economics, politics and social areas, thus allowing transition from industrial to informational society. Current situation in Lithuania will be presented and described.

1. IT sector in Lithuania. General notes

The informational society is a society that is open-minded, educated, willing to learn and share it's knowledge. People who belong to it are able to adapt technologies in daily chores, effectively use national and international web resources. Public institutions are able to take up good decisions and ensure access to secure information of good quality by using the web resources.

IT sector employed 37,312 employees during the year 2007. Compared with 2006, this number increased by 5.3% and accounted for 4.3% of total employment. The biggest increase in employment was in sectors of telecommunications, machinery and sales of equipment used in industry followed by companies consulting and providing software for businesses. IT sector's revenue reached 10.898 million LTL in 2007. Compared with 2006, turnover increased by 14% and accounted for 7.9% of total turnover. The reason in turnover increase is due to increase in sales and turnover of machinery and equipment used in industry, trading, navigation, computer and software wholesale trade and increased turnover of telecommunication companies [1-2].

2. IT services

The companies based on providing software, hardware and network installation and consulting had gained the biggest revenue – 541.9 million LTL, approximately 70.5% of all companies providing computer-based services. There was a raise of 26.9% in 2007.

Internet access. In the year 2007 there were 115 internet service providers. According to Communications Regulatory Authority, there was increase by nearly 24.2% in revenue compared to 2006. During the year 2007 there was increase in internet users of 1.6 times over the year to approximately 417.5 thousand - 12.3 internet users per 100 inhabitants. 83.6% of total amount of internet subscribers were home users.

IT for home users. Home user self-sufficiency for personal computers and Internet usage during the last few years, has been rapidly increasing. In the year 2008 about 42% of households owned a computer, while 40% had an internet access. In four years, the amount of computer owners increased twice, although there was an increase in internet users of 6.5 times [3-6].

In the first quarter of 2008 computers were owned by 53% urban households and 24% of rural households. Ability to own a computer, cell phone or an internet access is proportional to the income of a household. 86% of households with income higher than 2000LTL per month owned a computer and 82% had an internet access.

3. Population use of information technology

55% of 16-74 year old people admitted that they had used a computer. Most of them were young people. Only 4% of 16-24 year olds had never used a computer, while the result was much worse between seniors – 94% of people 65-74 years old had never used one. During the first quarter of 2008, 52% of people had used a computer. 66% of them used it daily, 27% - at least once per week. 32% of those who had used a computer had never taken any computer lessons (including lessons in school and lectures at college or university).

During the first quarter of 2008, about 4% of all those surveyed (or 7.2% of all internet users) admitted having bought something online for their own purposes.

Statistically, 45% of Lithuanian citizens had used internet during 2007. The usage of internet depends on the income of households – internet usage increases with income. The breakpoint is at about 1200-2000 LTL. That is so, because the usage of internet climbed over 50% at that point - about 58% of households owned a computer and had an access to internet. Mostly, the internet was used to look up information about services. Also it was often used to check email, communication or bank transactions. Only 5.5% of users had bought something over internet. By this criteria Lithuania is significantly below the EU average.

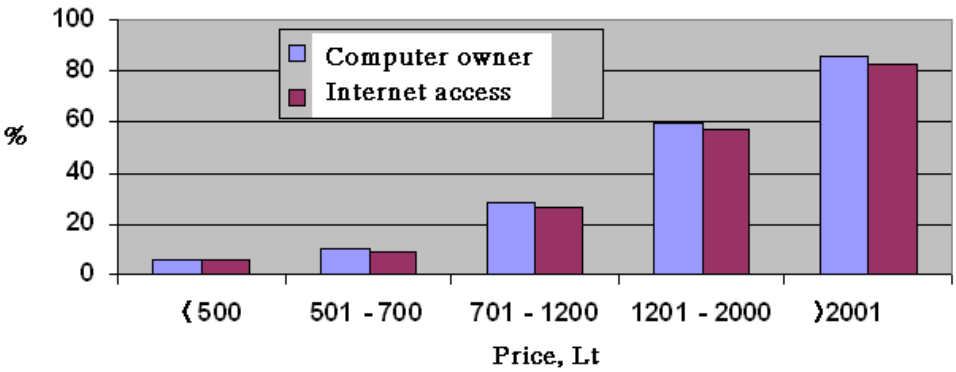

Fig. 1. Home user computer and Internet self-sufficiency in revenue [1]

Table 3. IT sector SWOT analysis

Strengths	Weakness	Opportunities	Threats
A favorable geographical position	Lack of IT satisfies the needs of new staff qualifications	State initiatives, development of information society	Labor force emigration
Sufficiently qualified and relatively cheap IT labor force	Legal environment not conductive to public relations with IT development	European Social Fund	Competition growth in both national and international level
The pace of new product and service installation	Insufficient investment volume of large regional differences.		Impossibility to colaborate with European Social Fund
ISO standards for the installation	Insufficiently developed IT infrastructure (especially in the periphery)		
Based programs and measures provided for modernization of production, innovation and scientific and business relations to improve	Slow pace of installation of innovation in Education offices		

The main reasons that hinder the further use of the Internet are indicated by the lack of time and foreign language skills, which is quite surprising because Lithuania is one of leading countries in Europe by knowledge of foreign languages among population. Although, that might be caused by the fact that majority of websites are available only in English. Although, the main reason, in Author's opinion, is the lack of knowledge and skills. Most of people are afraid of shopping on internet because of the thought that everyone is trying to scam everybody and it is impossible to catch them afterwards. Even more people had never heard of it.

Table 3 represents IT sector SWOT analysis. SWOT analysis is a strategic planning method used to evaluate the Strengths, Weaknesses, Opportunities, and Threats involved in a project or in a business venture.

After performing the Lithuanian IT sector SWOT analysis, it is clear that this sector is not sufficiently developed, does not cover all the possibilities. We are situated in a location that is business-favorable, have enough skilled and relatively cheap labor and enough of new products and technologies. The main problem is that we do not use them properly. On the slow deployment of innovation in educational institutions and outdated study programs we are unable to prepare workers qualified enough for IT sector. This in turn leads to the additional time and expenses in training staff, and is one of the negative factors in order to attract foreign investment. Problems are also caused by large regional differences. Major cities, especially Vilnius and Kaunas, are well-advanced and attract most of the investment, which leads to even slower development in other regions in respect of large cities.

In order to ensure permanent and continuous growth of the IT sector, it is necessary to properly assess and, if necessary, make decisions to eliminate potential threats. One of the current threats to Lithuania is emigration - the government provides higher education and then allows qualified professionals going abroad. Another threat is the growth in international competition. To ensure the stable development of the IT sector, there is a need for constant and uninterruptible process of training up worker qualification and putting up innovative techniques.

Although Lithuania's IT indicators are significantly improving, they are still far below EU average. Recently, by an annual IBM "Institute for Business Value", and The Economist "Intelligence Unit" study of the data of year 2008 , Lithuania took up 38th place by the e-readiness indicator. Latvia took 37th place, while Estonia is 28th. Study published last year showed Lithuania three positions below.

Each country's e-readiness score is counted according to 6 sectors: technological infrastructure, social and cultural environment, government's vision and politics, business environment, legal framework and lastly, business and private customers.

"Lithuanian electronic progress rate is one of the most rapidly growing in recent years. This was the result of a good legal framework for our country and the susceptibility of business innovation and technology "- said IBM Lithuania manager Rimantas Vaitkus. According to him, the growth stopped because of insufficiently developed technological infrastructure, so the priority now should be the development of broadband internet project [7].

It should be noted that a large gap remains between the old countries of Western Europe and Eastern and Central European countries. Although our country's score exceeds the average in our region, it also exceeds only Asian and CIS achievements too.

The fact, that the annual worldwide average score of e-readiness is rapidly increasing (from 6.24 last year it rose to 6.39), should also be taken into consideration. This indicates the rapid deployment of information technology throughout the world and in various fields. Top countries, such as the U.S., Hong Kong, the Netherlands and Australia have carried out a strategic policy - improved fixed and wireless broadband performance, and created a favorable economic environment for innovation.

According to another survey, the Global Information Technology report (2007-2008), Lithuania has jumped up in IT sector from 39th to 33rd position. The report used to determine the index of countries to use ICT, taking into account the three dimensions: general business, regulatory and infrastructure environment for ICT; the population, business and government preparations for the use of ICT, the real use of ICTs [2].

Table 4. The main e-barriers to business development

N	Description	Comments
1.	Acute lack of competition	Monopoly and oligopoly is not afraid of new competitors, and therefore are not motivated to constantly seek greater efficiency.
2.	Poor customer service standards	Poor maintenance usually way lead to poor service online. Poor online service does not create grounds for consumers to buy anything on electronic channels.
3.	Distort the relationship between suppliers	Searching for the best price in the non-competitive networks.
4.	Shortage of skilled managers	Inability to understand the scale of the development leads to poorly-based action or no action at all.

According to e-participation index Lithuania is in 19th position (in 2005 – 68th position). E-participation index indicates the state of information and services designed to involve citizens in public politics quality and usefulness. According to the e-government's preparations for the index Lithuania is in 28th place (2005 – 40th). The index, covering websites, telecommunications, infrastructure and human resources, reveals the government's preparation to take up opportunities offered by IT.

The best places in the report go to Denmark occupying the first place, Sweden (2nd) and Switzerland (3rd). Neighbor Latvia fell by two positions and is 44th, Estonia remained in 20th place.

The rapidly growing number of Internet home users, and growth of e-business improve the overall performance of the information society in comparison with the EU average. Of course, the backlog is still high. Lithuania is in 17th place by the percentage of Internet users and only in 21st place by the part of public e-services fully accessible to citizens. However, it is great that we are leading in the open source software usage in businesses.

Table 4 represents the scheme of main e-barriers to business development. Mentality of people responsible for Lithuanian business structures need to change. Most of large local businesses are not familiar with quality management, enterprise resource planning systems, business process reform, Six Sigma and various other western economy pillars. Meanwhile, the western economy is currently redeveloped, everything turns into e-everything. Many Lithuanian business owners have trouble understanding these transformations. It is even more difficult to properly react to them, apply and use them.

Innovations as well as changes are always accompanied by various fears of facing them unprepared properly. This sense is reinforced by different rumors or shortcomings. That way, development of innovations halts or, at least, slows down significantly. These are few barriers that force the slowdown of innovations.

1. Low number of Internet users. According to IVPK data, there were about 1.5 million (45%) of the Lithuanian population that had used or gained some benefits from Internet.

2. Low prevalence of credit cards and other payment problems. It has no significant effect on *Business-To-Business* (B2B) type e-business relations, meanwhile, the *Business-To-Consumer* (B2C) system operators have many alternatives (bank transfers, direct GSM Debiting accounts, etc.).

So, as we see there are no obstacles that can not be passed, although obstacles do exist. In author's opinion, the key is the user and seller lack of mutual trust. This type of business is still very frightful and unusual for consumers, for they are aware of possibility of being scammed and are afraid of it. Of course, the lack of highly qualified and constantly learning managers is still a significant problem because their actions are the key to trust and confidence, followed by loyalty towards one or another business.

4. Electronic Commerce in Lithuania: recent view

According to famous specialist of business management E. Berkovitz's [7] opinion, the key of every successful business is coping with their customers' needs. Theoretician of marketing P. Kotler is sure that every successful business has to gain and maintain their clients while effectively keeping up with their expectations [8]. High quality of customer service is essential to keep up with competition. Although, most of managers would agree that customer serving is of great significance, very few could define what exactly that is. Customer service is a factor that helps to increase sales and competitive ability [9].

Growth of digital economy is based on ability to communicate among participants in business. The most significant obstacles are these: i) inadequate development of telecommunication networks. ii) problems in compatibility of the telecommunications, information technology and trading. iii) high cost of services. iv) low quality and capacity of communication channels; v) lack of information security.

Currently, the most common technologies are based on exchange and sharing of operational information (text, audio, video), as well as technologies based on creation and supporting of informational resources. These technologies consist of email, forums, and various other websites.

The main problems in development of e-business are various differences and gaps in laws that govern the informational service market. There are significant differences in laws of data protection, international trading regulations, determining the origin of goods. Laws, describing the responsibilities of communication channel operators who are responsible for the authenticity and security of data, differ in every country, too. Another problem is securing and resolving authenticity of electronic documents, contracts, transactions and storage.

There are many obstacles that need to be taken into consideration in order to have a successful business. These should be noted as quite important.

1. Distrust: anxiety about price and unknown degree of risk, fear of getting scammed.

2. Lack of knowledge about efficiency of applying the Internet and informational technologies, lack of experience of development of strategy for e-businesses, doubts, whether a product or service is suitable for e-business.

Internet sales are pulled back by lack of trust between customers and sellers or service provider – customers are afraid that they may be scammed and would not be able to get their money back. These are gaps of legal basis. However, the recent Information Society Services Act should create conditions for more confidence in e-commerce in Lithuania. It is more based on discipline for e-sellers and should result in increase in confidence between customer and seller, thus increasing popularity of e-commerce.

Most of online merchants had not heard of that law but they already see the growth in sales, although not without problems. Ernestas Kacerauskas, the Chief Executive of UAB 'Tiketa', said that the e-tickets gain popularity at huge pace. 2.5 years ago, when the service of online ticket sales started, tickets sold on Internet amounted in only 5% of all sales. Currently, they amount in 30%. "We hope to sell at least 50% of all tickets online in few years. Similar shops in USA sell almost all of their tickets online and that is our target, too." According to Mr. Kacerauskas, there is significant distrust in e-shopping. "I do not see any other barriers for e-commerce. Trends are good, banks had also put in a lot to it. Of course, Internet could expand a little more, especially in provinces." – said Mr. Kacerauskas. However, Vygantas Milašiunas, the Chief Executive of online bookstore www.patogupirkti.lt noted that, although, the sales are increasing, pace could be greater. Bookstore that is operational for 3.5 years had turnover of 0.9 million LTL last year – 64% more than in 2004, amount of customers increased by 30%.

"Only 2% of Internet users are also users of e-commerce in Lithuania. Average in Western Europe is about 20%. The main obstacle - low usage of Internet in Lithuania, conservative and inexperienced users who are very careful towards e-commerce. In order to change this situation, we need to increase amount of e-services and some time. I think that the breakthrough should be in about 3 years."- says Milašiunas. Modestas Tamutis, Commercial Director of an online computer store gerakaina.lt owned by UAB Flop Information System (FIS), acknowledges that there is no practice of buying online and in order to increase the popularity in e-commerce, there should be more e-shops.

"The situation in our stores is getting better. We began e-trading in 2003, although back then it was useless. Sales increased in 2005 and reached monthly turnover of 230 000 LTL." – happily said Tamutis. Currently, about 25% of FIS total sales are made over Internet. According to Mr. Tamutis, the biggest increase in sales was caused by several reasons – significantly expanded assortment, advertisement, 2% discount for buying online. Mr. Tamutis agrees that the most difficult thing is to overcome customer's fears and distrust in online shops. "The biggest help to us was that we have a lot of shops and our name is well-known. People start to trust you a lot more – they feel safer buying from those who have real shops."

Information Society Services Act clearly states when the contract for the online purchase of goods or services is made. By default, there are set responsibilities for unlawful information on the Internet, for example, illegal trademark use. It is clearly defined what information should be submitted on the website by seller - physical home address, company name, phone, etc. E-mail address is not enough anymore. There is also noted protection of their rights for buying goods in abroad e-stores when their destination point is in Lithuania.

5. Questionnaire

In order to identify the web-based business development problems in Lithuania I made a special questionnaire, consisting of 10 questions. It was published online and was filled by people using news.omnitel.net newsgroup. This is the most popular newsgroup server in Lithuania. Newsgroups are international discussion board based on Usenet, where people discuss important events, publish recent news and discuss about anything they want. There are about 50 000 articles posted daily. In order to navigate properly, they are divided into subgroups according to topic of the post. The form was also e-mailed, asking it to forward to other recipients. Consumer Survey was conducted via the Internet. 159 respondents completed the questionnaire. The first question was aimed to find out the ways of communication, which respondents prefer to communicate with companies.

The largest share of respondents opted for the phone call (40%) and only a few % less contact via e-mail (38%). Another 6% prefer direct communication online via the Internet, 16% go to company's office. In summary, the online communication (e-mail and direct connection) has already conquered telephone communication. It is likely that while the number of users is growing and the quality of the Internet improves, this difference will be even bigger.

The second question sought to find out how many people have not used the Internet to communicate with various companies. Even 92% of respondents responded positively to the question of whether they have tried to contact over Internet. Comparing the answers of the first and second questions dilemma pops up - why the majority of respondents, tried to contact over the Internet, when this form of communication is not a priority.

To the popularity and growth of the global network adds the fact that the websites are attractive and easy to reach when information is provided in hyperlink, graphical, video and audio forms. Popularity of global network as a part of commercial media is caused by ability to manage information resources around the world. Four - five years ago the global network was seen mostly as a huge library and it's biggest advantage was ability to find required information and gain access to it. Currently, though, the global network is the biggest media source, with fancy graphical appearance and unique abilities of marketing, combined with the infinite source of any information reflecting dual role.

1. A role of new communication tool, unlike the traditional media the Internet is an interactive, flexible and infinite.
2. A role of a global virtual electronic market that does not have any territorial or temporary restrictions, allowing the interactive trading of goods and changing the opportunities of distribution.

An important feature of the Internet that has a significant impact on the transformation of traditional activities is interactivity - an opportunity to manage reports of the sender and recipient interaction. This option, unlike in traditional marketing, may be applied to the Internet and World Wide Web which is fully customizable through interactive marketing. It differs from traditional market places by option to reach any place from anywhere using computer networks, removing all restrictions. Traditional marketing relies on monologue with a customer while commercial services on the global network provide options for mass interactive dialogue between information senders and recipients.

In this way communication model of "One - many" turns into a model "Many - many", which allows mutual information flow [10].

The most popular method of online communication is by e-mail. Unfortunately, there is a problem of receiving fast and accurate answer to queries. Only 21% of respondents usually receive a reply in less than 3 hours, 23% in 3÷8 hours, and 41% of users usually receive a response only in 8÷18 hours. This is very uncomfortable, especially if you need to communicate with that company more or do not receive a proper answer for your query. 9% of respondents receive a response within 18÷36 hours. The probability that you will never receive an answer raises to 80% if you had not received one within first three days.

Providing of high quality and quick responses to customers queries may be adjusted by hiring more workers and investing in their training, also by redistributing priorities. Leaders of individual companies should be aware that 5% of people say that they usually do not receive an answer to their query.

Although this percentage is not very high, it may have a negative impact on business in future. This could mean that employees are not competent enough to answer all queries and are likely to ignore them. In order to prevent similar path there should be installed systems that would measure the amount of time it takes to answer an email and if an email stays unanswered for 36 hours – it should automatically inform the front office.

Detailed, accurate and clear answers to the customer queries are essential for succesful business. 70% of the respondents answered that they are not completely satisfied with the replies of the company representatives, 8% said that they usually receive negative or incomplete answers. Only 22% of respondents were satisfied by answers.

Customers always expect to receive the answer to all questions. The response should not be incomplete which would cause additional problems for the client. It is recommended that answers would consist links to further information on one or other matters. This should satisfy all customers - experts in their fields, as well as newcomers.

In order to effectively serve customers via the Internet, companies should continuously increase their workers' skills and motivation, that they, in turn, would interact with customers willingly. It should not be forgot that the company's personnel are the lifeblood of the company mirror. The company's management should ensure that the activities and behaviour of employees is constantly evaluated. This process, of course, should be left for the customers. By implementation of this task there should be established an evaluating system, which would add a link at the bottom of an email for evaluation. That would enable customers to quickly and conveniently evaluate every email they receive. In order to enhance the effect, the overall assessment of all customers could be linked to each employee's salary.

Respondents also had to answer a question in the questionnaire whether they are disturbed by the fact that communication is only based on emails. More than half of them (52%) said that it does not cause problems, while 13% of those surveyed were dissatisfied. The remaining 35% answered that communicating only by emails partly caused problems. The answer to this question may be linked to the results of first question that showed that 16% of those surveyed prefer direct contact, such as going to the company. This means that the virtual organization is still unable to satisfy all needs of a customer. The opportunity to chat online by just going to the company's website is innovative and rarely found. 28% of those who were surveyed welcomed this idea, and 43% thought about it more favorable than unfavorable. Unfortunately, not all customers find this opportunity attractive and able to replace a telephone conversation. Almost a third (29%) of interviewees had opposed the opportunity to communicate directly with each other. Many customers are accustomed to hear the representative of the company and are not likely to express their ideas in written form.

Communication by virtual chat takes longer for the client, but it is free and a form of reducing communication costs. It is also useful for the company. One operator can communicate with several clients at once and it is extremely convenient, if there are used certain combinations of numbers or codes. In this way, the likelihood of errors that can occur on the phone is reduced. It is likely that this form of communication will take on greater significance since the level of Internet quality and computerization is increasing while in the future it might be replaced by a video chat.

Almost all respondents are looking for information on the Internet. They are interested in product descriptions, prices or other consumer feedback on the product or seller. 21% of respondents do not use anything besides Internet for the information, while 43% use Internet the most. Yet a third said that they are looking for information on the Internet as well as other sources. Only the remaining 3% of those surveyed said that they do not favor or use Internet for searching of information at all.

The results show the need to properly assess the impact of the Internet enterprise. Website is like an active sales manager that regularly attracts many new customers. As we know, it is much more difficult to gain a new customer than to retain already existing one. Every company's executives should pay attention to the Internet and at least own a website, that would provide all the information about its services or products.

Most of respondents - 124 of the 159 indicated that the biggest drawback of e-commerce is the insufficient disclosure of the properties of an item. Every customer wants to try out and touch the product, ensure that it meets his expectations before purchasing it. Although, when buying online it is physically impossible to do so. Also there is always some fear of cargo being lost or broken on transportation.

Another disturbing fact – security of private information. Almost half of respondents noted it. Personal data provision and collection procedure takes place between the data subject and the collector. That is procedures of purchase in an electronic shop, reservation of tickets and hotel rooms, electronic payments, Internet banking services. The customer provides his private information himself that includes confidential information that consists of their credit card number, home address, workplace, profession, age, etc.

Unfortunately, it is also very interesting for criminals, too. Users need to know whether their relevant information will be properly protected. Naturally, the mutual trust is very important. This process in Lithuania is overseen by the National Data Protection Inspectorate (http://www.ada.lt). It is responsible for law enforcement functions, examining the requests and complaints, verifying the legitimacy of the processing of personal data, draw up protocols, register the data managers, and perform other functions that are set for it.

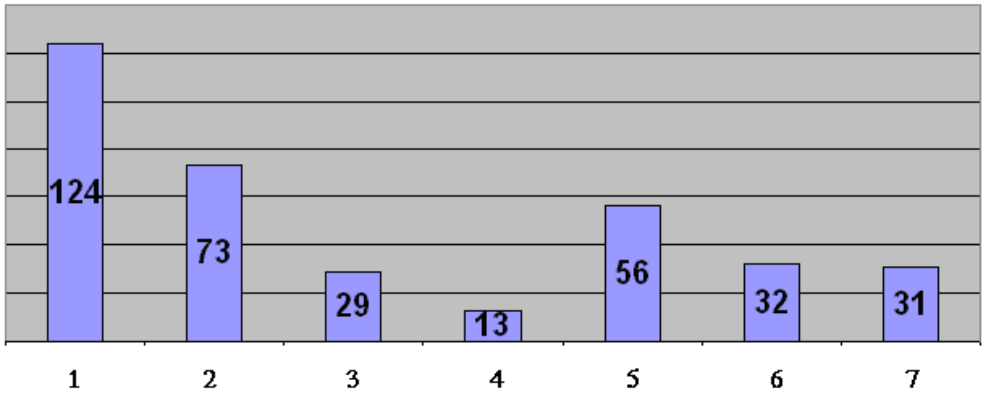

Fig. 2. Lack of electronic trading. 1. Impossibility to touch, "hidden" quantities of products. 2. Unsafe presenting of private data. 3. Absent of knowledge how to operate in Internet. 4. Price increases using Internet payment. 5. Unsafe payment. 6. Complication. 7. Another factors.

The other disturbing fact is the insecurity of payment. Most payments on the Internet are made by credit card. Some people are afraid of making payments online by credit card. Third of respondents noted that. Some reports concerning Internet frauds are shown by media from time to time. These facts reduce confidence of customers in e-business. Payments made on Internet are kind of electronic commerce Achilles heel. In order to develop e-business further and quicker, this problem should be resolved and safer and more comfortable ways of making payments should be applied.

Respondents also noted the lack of required information about usage of Internet payments and the difficulty to use it as big drawbacks from using Internet-based shopping. This is true for users who do not use a computer very often. It is easier for them to go to an ordinary shop. In order to attract these consumers, each e-business organization should create a separate page on their website, which describes in detail how to use this service.

The next question in the questionnaire was to find the opinion of users whether they are kindly served in online shops. Only 4% agreed with that statement while 21% agreed partly. 11% totally disagreed, 11% disagreed partially. 53% of respondents had no opinion on the matter. In conclusion, it looks like the sellers on e-shops are serving their customers the same way they do in ordinary shops. The last question was intended to clarify the need for Lithuania of software product installation and configuration service. 16% of respondents responded positively and 36% consider that as a possibility. However, 48% of those polled say that the service is not necessary. Of course, this depends on the user's computer knowledge. Fig. 2. represents the lack of electronic trading.

6. Online customer service development model: discussion

Analysis of the e-business situation in Lithuania followed by analysis of the data collected from the survey, assumptions were made for development of online customer service model. It turns out that Internet users do not receive a fast and efficient service. It consists of a delay to respond an electronic query, complete and accurate responses. In order to effectively serve customers, the company should be easily accessible, allow customers to contact them in a most convenient way. This, in my view, should be: e-mail, mail, telephone, live chat and other audio and visual means.

The majority of users use Internet to find information about goods and services, video and audio communication channels, although, they are not used for shopping online. Analysis of e-business and survey shows that the main reasons for that are: fear of being scammed, lack of knowledge, the insecurity of payment. In order to increase the amount of Internet shopping, companies should eliminate these fears by creating and maintaining image of trustworthy seller, guarantee the delivering of goods. Also, in my point of view, it would be extremely useful to add a section on webpage for inexperienced users. It should consist of the basics of e-business, description of the process and provide all the information regarding the process. To reduce the sense of insecurity additional payment options could be provided, such as bank transfer, paying via GSM network, a payment card. Another drawback for e-business is poor item description on the website. Users also want to touch and feel the item they are going to buy, making sure that it meets their expectations. Unfortunately, it is not possible in cyberspace. In my opinion, this could be partly compensated by providing full description of the goods or services based on video and audio technology. The user that had seen a video of service or item usage in reality, should feel much more bravely, and the possibility to return a product if it does not meet your expectations would be be the best option to attract a customer.

Further successful development may be expected after resolving these problems. Model was made and is shown in Fig. 3.

Conclusions

The presentation of characteristics of the goods or services in the Internet is one of the most important factors that stop e-business development in Lithuania. In the absence of opportunities to touch the product or service and make sure that it meets the requirements, video and audio technologies should be invoked to convey its' features. In this case the use of footage could fit ideally. Lithuania lags behind EU in terms of amount of people buying online. One of the reasons is lack of information on the subject. Online shopping still seems unearthly thing for many consumers. Others associate it with fear of getting scammed.

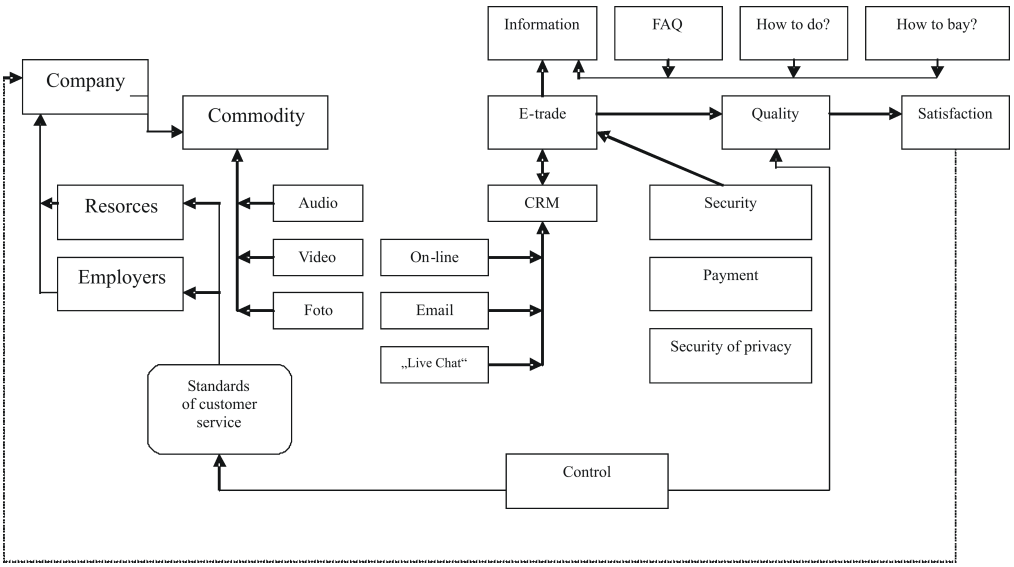

Fig. 3. Successful development of electronic commerce.

Lack willing to learn and skilled managers and the incapability to understand the dimension of ongoing changes leads to a little reasonable action or no action at all. The companies have to ensure opportunity for customers to contact in customer-friendly manner. Studies have shown that customers, who contact by email and do not get their problems solved, are willing to solve them by phone. There is also much interest in ability to communicate directly via live chat available at the website of a company.

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INNOVATIVE INFOTECHNOLOGIES
FOR SCIENCE, BUSINESS AND EDUCATION

EXPERIMENTS REGARDING A GAP BETWEEN THE PERCEIVED AND THE ACTUAL STATES OF THE DIGITAL LITERACY

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ABSTRACT The main idea of this article is to describe the most important parts of digital literacy experiments and also to show the gap between the perceived and the actual states of the digital literacy. Nowadays it is very important to proceed all tasks in time and make right decisions, so we can say that digital literacy helps us to solve a lot of problems in our business and perform almost all tasks faster. A lot of work depends on using computers correctly and if we want to check some people's skills, testing is one of the most practical ways to do that. There are two experiments described in details: the first one was dedicated to teachers and the second one to students.

Keywords: Digital Literacy; ECDL Certification; IT Skills; Computer Testing; Information Technology.

Short title: Digital Literacy Experiments

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Introduction

The Information Technology has become an important part of our everyday life and changes the way of our living *via* the Internet. Internet today has become the main source of information that can be reached by everyone. Many traditional services are being replaced by their electronic counterparts. Besides, it is not only a communicative way, but it also saves resources of a company. A person who has enough information at the time when he needs it most has much more chances to succeed in his business, to make a right decision and improve the business quality.

This tendency faces a barrier i.e. capability of citizens or the labour force to understand and use different kinds of Information Technology. The digital literacy as the confident use of Information Technology for work, communication and leisure has become extremely important for everyone of us. Organizations also communicate between each other and we can not imagine this communication without using Innovative Information Technologies.

Digital literacy can help us to solve different business problems faster and better. But this also dependents on how people are prepared to use information and information technologies in a company. That is why we should induce our employees to learn more about digital literacy and its advantages. People should compare their skills before learning and after learning, so it would help them to understand the difference between the actual and perceived states of digital literacy. Everyone can say that his/her skills level is either very high or poor but nobody knows how actually it is. Here in the article some experiments will be described in more details. As a result of experiments, we will be able to compare different opinions of students and teachers.

1. Digital Literacy programme and surveys in Lithuania

The Government of the Republic of Lithuania approved the General Computer Literacy Program on 15 September 2004. The State assumed the task of developing and supervising the digital literacy of the population as very important. This programme also covers a digital literacy researches in Lithuania [1]. It is proposed to perform a continuous monitoring of the general digital literacy, which is considered to be an efficient and indispensable tool of the progress assessment. That is why such researches have been analysed there for three years already [2]. The method of a questionnaire survey of the population was chosen to perform the researches. These surveys dealt with the part of population that can be described as an active, creative part of the society (citizens aged from 16 to 70).

The researches performed at the end of the years 2004, 2005, 2006 and 2007 reveal a rather high level of computer literacy among Lithuanian citizens. Approximately 50 percent of Lithuanian citizens who participated in the survey in year 2005 claim to have achieved a good level of digital literacy. The results of the last two years show that the situation has improved even more. But the results can be unreliable, because respondents might have chosen the most significant answer and we can not verify the results in practice.

How can we know that a new person in a company has enough skills and will be able to succeed in his duties? How can we know that we think in a right way? The level of a digital literacy can be assessed in the different ways. One of such ways is a self- assessment questionnaire where people choose the answer according to their own opinion. In reality, it is very difficult to rely on one person's opinion according to his duties. Everyone can claim that he/she skilful and professional, but we should get information from more reliable sources. Another way to examine a person is by asking specific questions or inviting to perform some tasks.

The main idea of this article is to describe that we should not trust only a self-assessment testing, but also include more reliable researches. Respondents choose to answer the most significant questions and we can not verify results in practice. Such differences between person's digital literacy self-assessment and estimation of his knowledge in more effective way can allow us to see if a person is worth to be called a good specialist.

2. Digital literacy researches on the European level

The research of digital literacy is also important on the European level [3]. Up to now the appreciation of this was insufficient. The statistical data are focused only on the numbers of computers at homes, the Internet access points, the network parameters, etc. The digital literacy results were usually treated as derivatives of the defined technological indices. However, even direct assessments of digital literacy based on the survey data fail to be very reliable. Testing the respondents is more reliable and it is important from European Union point as well, because such researches enable us to value the real situation and facts in a whole country to be compared with the other countries.

Here is the list of advantages of digital literacy testing on the European level: i) country monitoring of digital skills; ii) comparison by country, gender, age and other factors; iii) decreasing gap in digital literacy data; iv) compelling argument for governments and corporative; v) tool to enable increasing digital literacy.

3. Organization of surveys

To organize such experiments we should carry out below described tasks: i) define validation group; ii) define elements and content of the survey; iii) outline demographic parameters; iv) write detailed survey scope document and/or invite potential firms to tender; v) conduct survey; vi) analyse and interpret the results.

Therefore, we should select a group of several people (validation group) to discuss the elements outlined within the documents, to define clearly the exact parameters and objectives of the survey. The purpose of this survey is to establish a true understanding of the state of digital literacy and to provide a contextualised index of digital literacy allowing comparison by gender, age and other demographic or lifestyle factors.

It is also very important that survey has to match some academically and methodologically prepared standards. Standards also have to match certification of *European Computer Driving Licence* (ECDL) community. Hence, we can divide the methodology into some parts: i) survey of opinions on skills, opinions on other factors, lifestyle and demographic questions, using online survey tool; ii) short test of actual skills, using earlier prepared tests based on a reduced ECDL or similar test.

It is intended that the fieldwork part of the survey will be largely carried out through test centre network and that is why methodology should allow us to get enough real information that would help us to calculate the results.

We can also describe some main parameters and objectives that should be discussed by validation group: i) to agree the content of the survey; ii) to discuss and agree how we market the survey externally; iii) to define details of the scope of the survey for possible tendering; iv) to define the positioning of the survey to the market researches.

The two different assessments are described here: i) digital Literacy Self-Assessment; ii) digital Literacy Practical Assessment.

4. Organization of experiments

In the first part of a test a respondent answers such questions as described below.

1. Can you move and recognize desktop icons?
2. Can you forward a reply to an e-mail message?
3. Do you know how to add an image to a document?
4. Do you know how to modify text? Ect.

The respondent is asked some self assessment questions to determine what level of a digital literacy he thinks he has, so this item includes questions which could be grouped in that way: basic Computer knowledge; online communication; common application; media Library and others. Respondents have a three – answer- choice: "Yes"- 2 points; "Unsure"-1 point and "No"-0 points.

The second part of a test includes practical tasks. The quantity of questions in both groups should be the same, it would help to calculate results more accurate. For example, respondents can be asked such questions.

1. How would you move a desktop file?
2. How to reply to all your friends at the same time by e-mail?
3. How the image should be added to a document?
4. How would you modify different parts of a text? Etc

Here we can see such questions that are the same according to the first part, but in this part respondent must choose a right answer. If his answer is right, he gets 2 points, if he is uncertain he gets 1 point and if his answer is incorrect he gets 0 points.

As a result of two performed experiments we can see that a gap exists between the 'perceived' state of Digital Literacy and the 'actual state". Self-assessment results were compared with a real situation. We can assume that it is difficult to make more accurate assessment of the respondents' knowledge and competence unless they are tested directly. We are sure that it is a strong demand to create surveys which measure the 'actual' state of digital literacy.

5. Results of experiments

Here you can see the results of a research which were made at Vilnius University, Kaunas faculty of Humanities last year. Before examination students were asked to choose the answer that would fit their opinion the most. For this purpose a special questionnaire for self-assessment was drawn up. Afterwards, an ECDL examination showed us a real situation. Below we can look at the results of this testing. And what can we say? According to Fig. 1, we can estimate that almost all the students passed the test better than they thought they would do. Also we see that 46 students have a poor level. And the same is with good results: 57 students thought that they were good in using computers, but results show us that only 34 students can use computers without any problems.

As a conclusion we can say that from 117 students 48 can receive ECDL certificates that confirm their skills and only 11 students are not prepared for that. Therefore, we see a big difference between the real and perceived states of the digital literacy. In Fig. 2 we can see the same results, described in percents. Table 1 shows us the teacher's opinion and what is the real state of their skills. Experiment involved 35 teachers undertaking postgraduate studies. None of them are IT specialists, but they use computers on a user level. The respondents were introduced to the subject matter. Then all the participants were given the survey for self-assessment.

Table 1. Self assessment and real testing experiment, students

Skils	Self-assessment	Test Results
Can not work	3	17
Poor	46	18
Good	57	34
ECDL level	11	48

Here again, during the experiment earlier prepared tests were used for more specific situation and we see that results are almost the same. People can't evaluate how good they are at using a computer before passing the exams or doing such tests.

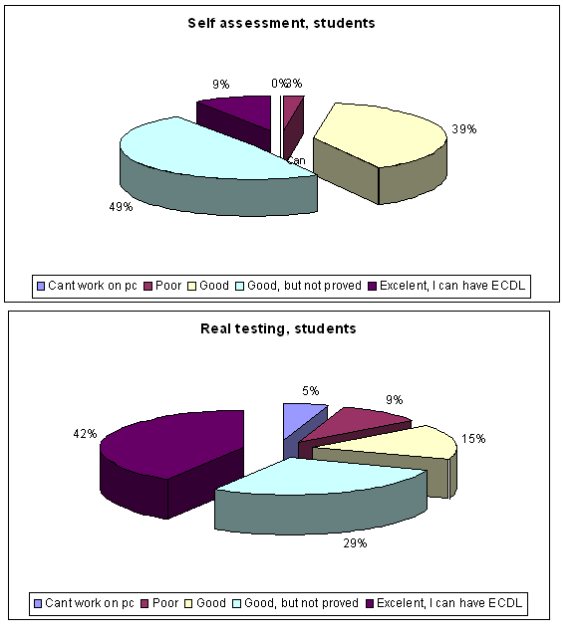

Fig. 1. Self assessment and real testing experiment, students.

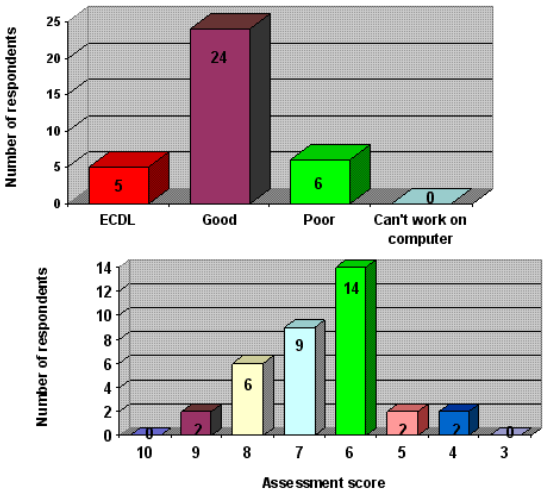

Fig. 2. Self-assessment and real testing experiment, teachers.

The results can not always be correct, so how it should be changed? First, the quantity of respondents should be about 500 or even more. Second, where it should be done? Shopping centres and shopping areas should fit most. Thus we just need enough time to get the best results.

Conclusions

The results obtained by the survey supported our assumption on under-objective self-assessment of the respondents' knowledge.

As the main result of the experiments mentioned, we can state that such researches enable us to value the real situation of digital literacy. Also this works as a confirmation that a person has enough skills in using computer and understanding the main tasks of IT.

Information technologies are becoming more popular each day. That is why a lot of people nowadays try to get European Computer Driving Licence (ECDL) certificate, which is as an evidence for everyone to prove that they can professionally use the information technology. We can say that ECDL certificates help to value all skills of people using personal computers in reliable, right ant correct way, not according only on human's self-assessment.

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